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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/606,108	06/25/2003	Kazushi Ogawa	075834.00420	4208
33448	7590	03/06/2007		
ROBERT J. DEPKE LEWIS T. STEADMAN ROCKEY, DEPKE, LYONS AND KITZINGER, LLC SUITE 5450 SEARS TOWER CHICAGO, IL 60606-6306			EXAMINER RENNER, CRAIG A	
			ART UNIT	PAPER NUMBER
			2627	
SHORTENED STATUTORY PERIOD OF RESPONSE		MAIL DATE	DELIVERY MODE	
3 MONTHS		03/06/2007	PAPER	

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/606,108

Applicant(s)

OGAWA ET AL.

Examiner

Craig A. Renner

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 February 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,3,5,7,9,11 and 19-21 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,3,5,7,9,11 and 19-21 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- ☐ Notice of Informal Patent Application
- ☐ Other: _____

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114.

Applicant's submission filed on 08 February 2007 has been entered.

Specification

2. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed. The following is suggested:

--HELICAL SCAN MAGNETIC HEAD WITH AUXILIARY MEMBER AND HAVING LEADING
MAGNETIC CORE WIDTH SMALLER THAN TRAILING MAGNETIC CORE WIDTH--.

3. The disclosure is objected to because of the following informalities:

a. In line 22 of claim 7, "direction on the" should be corrected to read
--direction of the--.

b. In line 1 of claim 20, "The magnetic head assembly" should be
changed to --The magnetic tape drive unit-- in order to more clearly refer back to

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that set forth in line 1 of independent claim 7.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 19 and 20 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

a. In lines 2-3 of claim 19, it is indefinite as to whether the “first auxiliary member” and the “second auxiliary member” are the same as the “at least one auxiliary member” set forth in line 5 of independent claim 1, or if the “first auxiliary member” and the “second auxiliary member” are in addition to the “at least one auxiliary member” set forth in line 5 of independent claim 1.

b. In lines 2-3 of claim 20, it is indefinite as to whether the “first auxiliary member” and the “second auxiliary member” are the same as the “at least one auxiliary member” and the “auxiliary member” set forth in lines 8 and 21 of independent claim 7, or if the “first auxiliary member” and the “second auxiliary member” are in addition to the “at least one auxiliary member” and the “auxiliary member” set forth in lines 8 and 21 of independent claim 7.

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c. In lines 3-4 of claim 20, it is indefinite as to whether "said trailing side" refers to that set forth in line 7 of independent claim 7, or that set forth in line 22 of independent claim 7.

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this

Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

7. Claims 1, 7, 19 and 20 are rejected under 35 U.S.C. 102(b) as being anticipated by Yamada et al. (US 4,799,118).

With respect to claims 1 and 19, Yamada et al. (US 4,799,118) teaches a magnetic head assembly (FIG. 2 or FIG. 3, for instance) comprising a magnetic recording head, having a leading side (adjacent one of 2 and 6) and a trailing side (adjacent the other of 2 and 6) relative to the traveling direction of a magnetic recording medium and fabricated in a thin film forming process (as

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shown in FIG. 2 or FIG. 3, for instance), and at least one auxiliary member (at least one of 1 and 8, for instance) adhered to either the leading side or the trailing side of the magnetic recording head, the magnetic recording head mounted in a helical scan drive (lines 5-7 in column 1, for instance, i.e., a "video tape recorder" is a helical scan drive) and including a substrate (1 or 7, for instance), a first magnetic core (one of 2 and 6) formed above the substrate (as shown in FIG. 2 or FIG. 3, for instance, i.e., depending upon viewer perspective) and having a front end portion (as shown in FIG. 2 or FIG. 3, for instance), a second magnetic core (the other of 2 and 6) formed above the substrate (as shown in FIG. 2 or FIG. 3, for instance, i.e., depending upon viewer perspective) and having a front end portion (as shown in FIG. 2 or FIG. 3, for instance) and a back end portion (as shown in FIG. 1b, for instance), the back end portion being connected to the first magnetic core (as shown in FIG. 1b, for instance), a magnetic gap (11) of predetermined thickness provided between the front end portion of the first magnetic core and the front end portion of the second magnetic core (as shown in FIG. 2 or FIG. 3, for instance), a coil (13) having a portion disposed between the first magnetic core and the second magnetic core for developing a magnetic flux between the front end portions of the first and second magnetic cores (as shown in FIG. 1b, for instance), wherein a width of the second magnetic core at the front end portion thereof is smaller than a width of the first magnetic core (as shown in FIG. 2, for instance, i.e., when element 6 is the second magnetic core; or, alternatively, as shown in FIG. 3, for instance, when element 2 is the second magnetic core), and wherein the second magnetic

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core is positioned on the leading side of the magnetic recording head (as shown in FIG. 2 or FIG. 3, for instance, i.e., one of FIGS. 2 and 3 must have the second magnetic core positioned on the leading side of the magnetic recording head since they are inverse from one another) [as per claim 1]; wherein a first auxiliary member (one of 1 and 8) is adhered to the leading side of the magnetic recording head and a second auxiliary member (the other of 1 and 8) is adhered to the trailing side of the magnetic recording head [as per claim 19].

With respect to claims 7 and 20, Yamada et al. (US 4,799,118) teaches a magnetic tape drive unit comprising a magnetic head assembly (FIG. 2 or FIG. 3, for instance) for recording signals on a tape shaped recording medium and tape driving means for making the tape shaped recording medium to travel along a predetermined traveling path (lines 5-7 in column 1, for instance, i.e., a "video tape recorder" includes a tape shaped recording medium and tape driving means), wherein the magnetic head assembly comprises a magnetic recording head (FIG. 2 or FIG. 3, for instance) positioned on a rotary head drum (lines 5-7 in column 1, for instance, i.e., a "video tape recorder" includes a rotary head drum) and having a leading side (adjacent one of 2 and 6) and a trailing side (adjacent the other of 2 and 6) relative to the traveling direction of the tape shaped recording medium and fabricated by a thin film forming process (as shown in FIG. 2 or FIG. 3, for instance), and at least one auxiliary member (at least one of 1 and 8, for instance) adhered to either the leading side or the trailing side of the magnetic recording head, the magnetic recording head including a substrate (1 or 7, for instance), a first magnetic core (one of 2 and 6)

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formed above the substrate (as shown in FIG. 2 or FIG. 3, for instance, i.e., depending upon viewer perspective) and having a front end portion (as shown in FIG. 2 or FIG. 3, for instance), a second magnetic core (the other of 2 and 6) formed above the substrate (as shown in FIG. 2 or FIG. 3, for instance, i.e., depending upon viewer perspective) having a front end portion (as shown in FIG. 2 or FIG. 3, for instance) and a back end portion (as shown in FIG. 1b, for instance), the back end portion being connected to the first magnetic core (as shown in FIG. 1b, for instance), a magnetic gap (11) of predetermined thickness provided between the front end portion of the first magnetic core and the front end portion of the second magnetic core (as shown in FIG. 2 or FIG. 3, for instance), a coil (13) having a portion disposed between the first magnetic core and the second magnetic core for developing a magnetic flux between end portions of the first and second magnetic cores (as shown in FIG. 1b, for instance); wherein a width of the second magnetic core at the front end portion is smaller than a width of the first magnetic core (as shown in FIG. 2, for instance, i.e., when element 6 is the second magnetic core; or, alternatively, as shown in FIG. 3, for instance, when element 2 is the second magnetic core); and wherein the second magnetic core is positioned at a leading side of the magnetic recording head (as shown in FIG. 2 or FIG. 3, for instance, i.e., one of FIGS. 2 and 3 must have the second magnetic core positioned on the leading side of the magnetic recording head since they are inverse from one another) and wherein an auxiliary member (1 and/or 8, for instance) is adhered to the magnetic recording head at the leading side and/or a trailing side in the traveling direction

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on the magnetic recording medium (as shown in FIG. 2 or FIG. 3, for instance) [as per claim 7]; wherein a first auxiliary member (one of 1 and 8) is adhered to the leading side of the magnetic recording head and a second auxiliary member (the other of 1 and 8) is adhered to the trailing side of the magnetic recording head [as per claim 20].

8. Claim 21 is rejected under 35 U.S.C. 102(a) and/or 35 U.S.C. 102(e) as being anticipated by Katakura (US 2002/0101683).

Katakura (US 2002/0101683) teaches a magnetic head assembly (includes 30, for instance) comprising a magnetic recording head (30) having a leading side and a trailing side relative to the traveling direction of a magnetic recording medium (as shown in FIG. 6, for instance) and fabricated in a thin film forming process (as shown in FIGS. 7A-9H, for instance), at least one auxiliary member (includes at least part of 200, for instance, shown in FIG. 15) adhered to either the leading side or the trailing side of the magnetic recording head (since the head 30 is incorporated into element 200), the magnetic recording head mounted in a helical scan drive (paragraph [0162], for instance) and including a substrate (31), a first magnetic core (33) formed above the substrate and having a front end portion, a second magnetic core (34) formed above the substrate and having a front end portion and a back end portion, the back end portion being connected to the first magnetic core (as shown in FIG. 6, for instance), a magnetic gap (G) of predetermined thickness provided between the front end portion of the first magnetic core and the front end portion of the second

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magnetic core (as shown in FIG. 6, for instance), a coil (37) having a portion disposed between the first magnetic core and the second magnetic core for developing a magnetic flux between the front end portions of the first and second magnetic cores (as shown in FIG. 6, for instance), wherein a width of the second magnetic core at the front end portion thereof is equal to or smaller than a width of the first magnetic core (as shown in FIG. 6, for instance, i.e., equal to); and wherein the first magnetic core and the second magnetic core each has a narrow region located nearest to the recording medium and a widening portion wherein the width of the cores each increases (as shown in FIG. 6, for instance), the first magnetic core and the second magnetic core each has a widened portion that is substantially wider than the region located nearest the recording medium and which is adjacent the widening portions (as shown in FIG. 6, for instance) and the coil portion is located between the first and second magnetic cores only at the widened portions of the first and second magnetic cores (as shown in FIG. 6, for instance), the widened portions having a generally constant width at the location of the coil portion (as shown in FIG. 6, for instance).

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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10. Claims 3, 5, 9 and 11 rejected under 35 U.S.C. 103(a) as being unpatentable over Yamada et al. (US 4,799,118) in view of Chen (US 5,812,350).

Yamada et al. (US 4,799,118) teaches the assembly/unit as detailed in paragraph 7, *supra*. Yamada et al. (US 4,799,118), however, remains silent as to "wherein a saturation magnetic flux density of a material of said first magnetic core is chosen to be larger than that of said second magnetic core" as per claims 3 and 9; and "wherein said first magnetic core is made of two or more kinds of stacked films and a saturation magnetic flux density of a material of at least one film of the stacked films closest to said magnetic gap is chosen to be larger than that of said second magnetic core" as per claims 5 and 11.

Chen (US 5,812,350) teaches a saturation magnetic flux density of a material of a first magnetic core (PT) being chosen to be larger than that of a second magnetic core (P1, as shown in FIG. 10, for instance, i.e., $\text{Ni}_{45}\text{Fe}_{55}$ has a larger saturation magnetic flux density than $\text{Ni}_{80}\text{Fe}_{20}$), and a first magnetic core (P2) being made of two or more kinds of stacked films (as shown in FIG. 9, for instance, i.e., $\text{Ni}_{45}\text{Fe}_{55}$ and $\text{Ni}_{80}\text{Fe}_{20}$) and a saturation magnetic flux density of a material of at least one film of the stacked films closest to a magnetic gap (G3) is chosen to be larger than that of a second magnetic core (P1, as shown in FIG. 9, for instance, i.e., $\text{Ni}_{45}\text{Fe}_{55}$ has a larger saturation magnetic flux density than $\text{Ni}_{80}\text{Fe}_{20}$) in the same field of endeavor for the purpose of minimizing magnetostriction. It would have been obvious to a person having ordinary skill in the art at the time the invention was made to have had a saturation magnetic flux density of a material of the first magnetic core of Yamada et al. (US 4,799,118)

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be chosen to be larger than that of the second magnetic core as taught by Chen (US 5,812,350), and to have had the first magnetic core of Yamada et al. (US 4,799,118) be made of two or more kinds of stacked films and a saturation magnetic flux density of a material of at least one film of the stacked films closest to the magnetic gap be chosen to be larger than that of the second magnetic core as taught by Chen (US 5,812,350). The rationale is as follows:

One of ordinary skill in the art would have been motivated to have had have had a saturation magnetic flux density of a material of the first magnetic core of Yamada et al. (US 4,799,118) be chosen to be larger than that of the second magnetic core as taught by Chen (US 5,812,350), and to have had the first magnetic core of Yamada et al. (US 4,799,118) be made of two or more kinds of stacked films and a saturation magnetic flux density of a material of at least one film of the stacked films closest to the magnetic gap be chosen to be larger than that of the second magnetic core as taught by Chen (US 5,812,350) since such minimizes magnetostriction.

Pertinent Prior Art

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. This includes Yagyu (US 5,822,161), Minami et al. (JP 11-213333), Fukuyama (JP 2001-273606), and Katakura (JP 2002-151332), which each individually teaches a helical scan magnetic head assembly with pole tips of equal width and a coil located in widened portions of cores.

Response to Arguments

12. Applicant's arguments with respect to the claims have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Craig A. Renner whose telephone number is (571) 272-7580. The examiner can normally be reached on Tuesday-Friday 9:00 AM - 7:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hoa T. Nguyen can be reached on (571) 272-7579. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service

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Representative or access to the automated information system, call 800-786-

9199 (IN USA OR CANADA) or 571-272-1000.



Craig A. Renner
Primary Examiner
Art Unit 2627

CAR